

735 DETECTORS

Detectors should be installed as shown in the Project Plans. It may be necessary for the Resident Engineer to layout the exact locations of these detectors when the Project Plans are in conflict with existing detectors. It is important that the Resident Engineer contact the Designers if such a conflict is evident. The Electrical Inspector should bring any potential conflict to the attention of the Resident Engineer as soon as possible. Although the Inspector should make recommendations, no action should be taken until directed by the Resident Engineer.

Following installation of loop detectors, the Inspector should be satisfied that all required testing has been completed and the system fully functional before accepting the work. A copy of the contractor's preliminary test results shall be furnished by the Engineer to the Data Section of the Transportation Planning Division (206 S. 17th Ave., MD 070R, Phoenix, AZ 85007) to allow for final TPD-Data testing and input of the detector into the state highway log. Prompt notification will allow for final inspection by TPD-Data Section prior to retention release. (See Blank Forms at the end of this chapter.)

Loop Detector Installation

- Check Project Plans for location, size, and type of loop detectors required.
- Make sure that loop detectors are installed in subbase or base material on new roadway construction.
 - A. Make sure loop detectors are properly located with respect to centering in each traffic lane and distance into the stop bar area (usually 6 feet [2 meters] if not specified).
 - B. Keep trenching to a minimum, approximately 4 to 6 inches (100 millimeters to 150 millimeters) in depth.
 - C. Make sure there is 2 inches (50 millimeters) of sand placed above and below the loop wire.
 - D. Check the number of wire turns.
 - E. Was the insulation resistance to ground test at least 50 megohms before and after the saw cut sealant was installed, and was it tested in your presence?
 - F. Did the Contractor perform and document a continuity test?
 - G. Were loop detector wires identified as to phase number, direction, and lane, with wire marking tags?
- Saw cutting loop detectors in asphaltic concrete.
 - A. On new construction with multiple lifts of asphaltic concrete, make sure loop detectors are installed prior to the final lift being placed.
 - B. If a manhole or water valve cover is located where loop detectors are to be installed, the loop detector must be modified. Contact the project traffic Designer for a design change.
 - C. Are corner holes drilled first?
 - D. Is the saw cutting straight?
 - E. Check saw cut depth every 3 feet (1 meter).
 - F. Were the saw cuts blown out with compressed air and dried before installing conductors? Check for small rocks and other debris.
 - G. Has the loop detector wire been approved?
 - H. Check the number of wire turns.
 - I. Were hold down tabs installed every 2 feet (600 millimeters)?
 - J. Was the approved sealant furnished and applied?
 - K. Was the insulation resistance to ground test at least 50 megohms before and after the saw cut sealant was installed, and was it tested in your presence?
 - L. Did the Contractor perform and document a continuity test?
 - M. Check sealant for voids.
 - N. Make certain that the Contractor has cut a 3-inch (75-millimeter) "Y" into face of the curb directly over the loop detector conduit stub-out located under the curb.

- O. Were loop detector wires identified as to phase number, direction, and lane, with permanent wire marking tags?
- P. When loop detectors are to be installed on existing roadways under traffic conditions, does the Contractor have an approved traffic control plan?